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A new Genus of Powdery Mildews—*Erysiphopsis*

By BYRON D. HALSTED.

While at a meeting of the A. A. A. S., held in Madison, Wis., in August, 1893, and upon one of the delightful botanical excursions of the week the writer, in company with Prof. S. M. Tracy, found a mildew upon a *Parnassia* in considerable abundance. It has characteristics that do not admit it to any of the existing genera and as it approaches the *Erysiphe* more than any other, the next nearest being *Phyllactinia* the name of *Erysiphopsis*, that is, *like* or *similar* to *Erysiphe* is offered.

Erysiphopsis gen. nov.

Appendages rigid, brittle, usually nearly straight and frequently slightly swollen at the tip.

Erysiphopsis Parnassiae

Amphigenous, but most abundant upon the upper surface; hyphae inconspicuous. Perithecia widely scattered, almost black, 60–110 μ in diameter with reticulations coarse and distinct: appendages 8–15, about 10 μ in diameter at base and varying greatly in length—the shorter, 25–50 μ , being straight and brown throughout with the tips rounded and often distinctly swollen—while the longer are 2–5-septate, somewhat bent, the upper cell being pale brown and without distinctly swollen tips: asci 4–5, oval, pedicellate, 25–30 by 40–45 μ ; sporidia oval, usually 4 (4–5), 6–8 by 12–16 μ .

On leaves of *Parnassia Caroliniana* Michx., Madison, Wis.

The key of the genera given below modified from that arranged by Dr. Burrill in his “*Erysipheae*”* will help to show the position taken by the new genus.

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| I. Appendages consisting of simple threads similar to the mycelium and often interwoven with it. | |
| 1. Perithecia containing only one ascus. | <i>Sphaerotheca.</i> |
| 2. Perithecia containing several asci. | <i>Erysiphe.</i> |
| II. Appendages dissimilar to and free from the mycelium. | |
| A. Appendages simple—not usually forked at the tip. | |
| 3. Appendages coiled at the tip. | <i>Uncinula.</i> |

* Parasitic Fungi of Illinois, Bull. Nat. Hist., 1887.

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| 4. Appendages needle-shaped, abruptly swollen at base. | <i>Phyllactinia.</i> |
| 5. Appendages not coiled or needle-shaped. | <i>Erysiphopsis.</i> |
| B. Appendages dichotomously forked at the tip. | |
| 6. Perithecia containing only one ascus. | <i>Podosphaera.</i> |
| 7. Perithecia containing several asci. | <i>Microsphaera.</i> |

It is not in the same group with *Erysiphe* and is closely associated with *Uncinula* and *Phyllactinia*.

The Saxifragaceae, to which the *Parnassia* belongs, do not abound in mildews and in the United States, they furnish a host for only one species of *Erysiphe* and two for a *Phyllactinia*. Thus *Heuchera Americana* L., is a host for *Erysiphe communis* (Wallr.) and *Heuchera parvifolia* Nutt., and *Philadelphus Lewisii* Pursh, are recorded as bearing *Phyllactinia suffulta* (Reb.). From the standpoint of hosts it is therefore seen that the new species is associated with the *Erysiphe* and *Phyllactinia*.

I am under many obligations to Professor Burrill for his kindness in examining the *Parnassia* mildew, and the suggestions that he has made upon its peculiarities and affinities.

The same fungus has been collected by several others. Dr. Harper, of Madison, Wis., in his reply to my query concerning the identity of the host, stated that he found the mildew at Waukegan, Ill., during the same year it was taken at Madison. Mr. F. L. Stevens, a former student of mine and now of the University of Chicago, found the same in considerable quantity near Syracuse, N. Y., and elsewhere. The species is probably not rare; but one not easily seen, because of the evanescent mycelium and the peculiar glabrous *Parnassia* leaves, as well as the inobtrusive habit of the host.